

## REMARKS

Applicants thank the Examiner for the Final Office Action of April 29, 2010. This Amendment is in full response thereto. Thus, Applicants respectfully request continued examination and allowance of the application.

Claims 10-25 are pending in this application.

### **First Claim Rejection Under 35 U.S.C. § 103:**

Claims 10-17 and 19-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Peschka (USPN 4,386,309) in view of Moiseev (USPN 5,226,299) and Lak, et al. (US Pub. 2004/0256395). Applicants respectfully traverse for any one or more of at least three reasons: 1) the examiner has not provided a legally sufficient reason for concluding that the suggested combination of teachings would have been considered obvious; 2) the examiner's interpretation of Peschka is unreasonably broad and in total opposition to how one of ordinary skill in the art would have understood the Peschka disclosure; 3) the examiner's proposed combination of Peschka and Moiseev would not have resulted in the required claim limitation that there be a heat exchange relationship between the circuit and the first screen.

Applicants claim a hydrogen storage installation comprising a liquid Hydrogen tank, a pipeline for extracting liquid Hydrogen, a circuit for discharging gaseous Hydrogen, and an electrical refrigerating machine connected to the fuel cell. The liquid Hydrogen tank has an insulating jacket made of cellular material incorporating at least one first metal screen. The circuit is connected to the hydrogen inlet of a fuel cell and has at least one portion in a heat exchange relationship with the first screen. The electrical refrigerating machine has at least one cold part in a heat exchange relationship at least with the first screen.

Applicants assume that the examiner proposes to replace the radiation shield 5 of Peschka with the radiation shield 2 of Moiseev, place the radiation shield 5 in fluid communication between the pipeline 10 and interior of tank 1 of Peschka, and

supply Hydrogen from the interior of the tank 1, through the radiation shield 5, and into the pipeline 10. If applicants misunderstand the examiner's position, they kindly request detailed clarification.

**First**, the examiner has not provided a legally sufficient reason for concluding that the suggested combination of teachings would have been considered obvious by one of ordinary skill in the art. In the Office Action, the examiner says that it would have been obvious to modify Peschka by using a metal screen cooled by exiting vapor as taught by Moiseev, because it would be desirable for long term storage of liquid Hydrogen. Applicants assert that this is not a sufficient reason for the substantial modifications of Peschka because Peschka already provides for efficient long term storage of liquid Hydrogen. Setting Lak aside for the moment and in the interests of compact prosecution, applicants kindly ask the examiner:

- What improvement or benefit does such a modification of Peschka with Moiseev bring?
- Exactly how is such hypothetical long term storage more efficient than that of Peschka?
- Which portion of the prior art would make one of ordinary skill in the art believe that such a modification would make such hypothetical long term storage more efficient than that of Peschka?

Unless the examiner can provide satisfactory answers to each of these questions, the justification for the examiner's modification does not represent any change in function to the Peschka device but rather represents no more than a hindsight recreation of the claimed subject matter for the sole purpose of rejecting the claims

**Second**, in response to applicants' argument that the combination of references would not have resulted in the claimed subject matter because the circuit of Peschka does not perform the function of feeding hydrogen to a fuel cell and having at least one portion that is in heat exchange relationship with the first screen, the examiner counters that the circuit 12 feeds hydrogen to the fuel cell 14 and it inherently cools shield 5 as fluid flows therethrough. This conclusion constitutes an

unreasonably broad interpretation of Peschka that is in total opposition to what one of ordinary skill in the art would have concluded. Peschka discloses that the tank 1 is mounted in the casing 2 with central supports 4 with careful avoidance of the central supports 4 acting as a thermal bridge between the tank 1 and casing 2 (col. 2, Ins. 1-3). The Peschka Figure also makes clear that the pipe 19 is thermally insulated from the shield 5 by central supports 4. Thus, the explicit teachings of Peschka are to avoid heat transfer from the pipe 19 and shield 5. Why then, is it inherent then that the circuit 12 connected to pipe 19 or that the pipe 19 is in putative heat transfer relationship with respect to shield 5? The Court of Appeals for the Federal Circuit has long insisted that "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted). Consistent with this requirement of all inherency arguments, applicants kindly request the examiner to provide a satisfactory explanation.

**Third**, setting Lak aside for the moment, the examiner's proposed combination of Peschka and Moiseev would not have resulted in the required claim limitation that there is a heat exchange relationship between the circuit and the first screen. This is because the way in which the examiner places the shield 2 of Moiseev in fluid communication between the interior of the tank 1 of Peschka with the pipeline 10 of Peschka results in the shield 2 serving both as the "circuit:" and the "screen". The claimed subject matter on the other hand requires two separate elements: a separate circuit and a separate screen.

With respect to claim 20 in particular, the claimed subject matter requires that at least one portion of the circuit comprises an inner portion running along in heat exchange with the inner screen and a downstream portion running along in a heat exchange with the outer screen. How can the shield 2 of Moiseev run along in heat exchange with itself? Applicants kindly note that the examiner perhaps has not recognized this necessary limitation in claim 20, because the examiner states that

“Moiseev explicitly teaches that the vapor exiting the tank (4) provides cooling by running along in heat exchange relationship with the screens”. Claim 20 does not require that the flow of Hydrogen run along in heat exchange relationship with portions of the screen. Rather, it requires that an inner portion of the circuit run along in heat exchange with the inner screen and a downstream portion of the circuit run along in a heat exchange with the outer screen

Thus, the rejection should be withdrawn.

**Second Claim Rejection Under 35 U.S.C. § 103:**

Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Peschka (USPN 4,386,309) in view of Moiseev (USPN 5,226,299) and Lak, et al. (US Pub. 2004/0256395) as applied to claim 10-17 above, and further in view of Miyajima, et al. (US Pub. 2005/0173170) or Lechner (US Pub. 2004/0211192). Applicants respectfully traverse because the combination of Peschka, Moiseev, and Lak, et al. teachings suggested by the Examiner would not have resulted in the claimed subject matter as explained above, and because Miyajima, et al. and Lechner fail to address the deficiencies of Peschka, Moiseev, and Lak, et al. Thus, the rejection should be withdrawn.

**Third Claim Rejection Under 35 U.S.C. § 103:**

Claim 10-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kema (NL 1018316) in view of Moiseev (USPN 5,226,299) and Lak, et al. (US Pub. 2004/0256395). Applicants traverse for two reasons. First, the combination of references suggested by the examiner fail to disclose all of the limitations required by the claims, in particular, liquid hydrogen. Kema discloses the room temperature storage of gaseous fuel, not liquid Hydrogen. Second, one of ordinary skill in the art would not have found it obvious to combine the teachings of Moiseev and Lak, et al. because Kema is non-analogous art as it is concerned with the storage of gaseous Hydrogen, not liquid Hydrogen. Thus, the rejection should be withdrawn.

## CONCLUSION

Accordingly, it is believed that the present application now stands in condition for allowance. Early notice to this effect is earnestly solicited. Should the examiner believe a telephone call would expedite the prosecution of the application, he/she is invited to call the undersigned attorney at the number listed below.

It is not believed that any fee is due at this time. If that belief is incorrect, please debit deposit account number 01-1375. Also, the Commissioner is authorized to credit any overpayment to deposit account number 01-1375.

Respectfully submitted,

Date: **July 29, 2010**

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